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Volume V

April, 1935

Number 2

FINANCE AND BUSINESS ADMINISTRATION

Prepared by the Committee on Finance and Business Administration: H. H. Davis, Arthur B. Moehlman, Paul R. Mort, Ward G. Reeder, and Alfred D. Simpson, *Chairman*; with the cooperation of B. R. Ford, Lloyd Morey, and A. W. Schmidt.

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FOREWORD

THIS number follows the same general plan as the corresponding number of the first cycle of the *Review of Educational Research*, published in April, 1932. Two chapters of the earlier review, "Public Relations," and "Fiscal Control and Textbooks in Business Management of the Schools," are omitted. No studies have been found on the first topic, and the second is included in other chapters. New chapters are included on "Capital Outlay, Indebtedness, and Debt Service," and on "Public Education Costs."

In view of the urgent nature of the financial problems during the depression and the readjustments in expenditures entailed by curtailed income, a review of the studies in this field is especially useful at this time. The exploration of sources of revenue, the study of organization and administration as related to economy, and the problem of meeting the changed conditions without lowering the quality of educational practice and outcome, engage the thought of school administrators to a greater degree than in quieter times. This issue will serve its purpose if it helps administrators clarify their problems of finance and management, and if, in addition, it stimulates further research on problems which have thus far not been sufficiently illuminated.

FRANK N. FREEMAN,
Chairman of the Editorial Board.

INTRODUCTION

THIS number for the most part limits its review of research in the field of educational finance and business administration to the period since April, 1932, when a similar issue appeared in the first cycle of the *Review of Educational Research*. Occasionally, however, references have been made to studies prior to 1932. It will be noted further that this number of the *Review* has for the most part refrained from dealing with fiscal matters relating to the teaching personnel, to school buildings and grounds, and to the legal bases of education. This is due to the fact that other committees of the Association were appointed to prepare entire numbers dealing with these problems.

Slight changes will be noted in the topical arrangement from that which prevailed in the first cycle number. The individual members of the committee have been given complete freedom in the choice of studies to be reviewed and in their treatment of the material.

Reference should be made here to the bibliography by Alexander and Covert (28), the most comprehensive and satisfactory bibliography on

educational finance which has been prepared since the time of the Educational Finance Inquiry Commission.

In the original plan for this issue it was intended to have a chapter dealing with public relations with special emphasis upon their fiscal aspects. The member of the committee to whom this subject was assigned was obliged to report that during the period under consideration there had been no studies which could be characterized as research in the field of public relations. The only reason for commenting upon this fact at the present time is to draw attention to the importance of this area as a fertile field for research. The problem of public relations and particularly the relationship between school and other governmental finance is one deserving of much more attention than it receives.

In 1931 provision was made by the Congress of the United States for the National Survey of School Finance. The appropriation act made available \$50,000 for the first year of what was planned to be a four-year undertaking. No project in the field of educational finance promised more than this national survey. Our great expectations were fully substantiated by the first three studies which appeared and which are reviewed herein. No one familiar with the school finance situation or with the research in this field can fail to be dismayed by the abrupt curtailment of the National Survey after the first year of its life. It is particularly disconcerting that in a period such as the past five years it should have been found necessary to halt this undertaking. It is to be earnestly hoped that this project may be resumed and that the further researches which were planned at the inception of the survey may be continued under federal subsidy.

Finally, I wish to express my appreciation to the members of the committee appointed to prepare this number and to others who have assisted for their cooperation and contributions, rendered in most cases, I am sure, in the face of insistent pressure from the demands of their regular work.

ALFRED D. SIMPSON, *Chairman,*
Committee on Finance and Business Administration.

CHAPTER I

Public School Accounting

THE initial reporting of research in public school accounting for the *Review of Educational Research* in April, 1932, included a general review of tendencies up to November, 1931. At that time the schools were just beginning to feel the depression seriously and emphasis was quickly directed to more pressing problems than those of the technical keeping of books for income and expenditures. Questions of taxation, revenue, organization, administration, planning, and budgeting occupied the major attention of specialists in this field. As stated in the first report the term "research" must be used rather broadly in reporting studies on accounting. Some of the material represents experience, and other subjects include generalizations developed either from observation or from hunch. Considerable latitude, therefore, has been employed in reporting studies.

Raw Cost Appraisal

The danger of using raw costs in educational accounting as a means of measuring relative efficiency of instruction was pointed out by Frostic, Lovejoy, and Erickson (6). They emphasized the fact that the analogy between commercial and public accounting, so frequently assumed as complete by both business man and superintendent, is scarcely tenable. Careful study was made of only forty-nine of the variables in public school accounting. These variables were traced and their differences analyzed in a number of communities. So marked were these differences that the authors concluded that "the practice of executives and boards of education to justify school efficiency on the basis of low tax rates or low per capita costs, without regard to the service rendered, is not only reprehensible but pernicious."

State Systems

After several years of research on a laboratory basis at the University of Iowa under the direction of Professor E. T. Peterson, in certain problems pertinent to a uniform state accounting system, a general plan was worked out by Williams (12) and was designated in 1934 by the State Department of Public Instruction as the official accounting system for all Iowa public schools. Authority for its promulgation was derived from two statutes enacted in 1933 which (a) made the State Department of Public Instruction responsible for devising an accounting system; and (b) provided that the state auditor should arrange for an annual examination of the financial condition and transactions of all school officers. The study includes essential

records and descriptions governing their use, unit costs and suggestions for their derivation, lists of equipments and supplies, duties of the secretary and of the treasurer under the law, a working bibliography, and illustrations of accounting forms.

Accounting Procedure and Principles

Fowlkes (5) published an expansion and improvement of his earlier study of financial accounting. The system, subjected to field experimentation for three years, draws its inspiration chiefly from Hiram Case. The author also admits the influence of nine other writers in this field. It is designed as a complete system of commercial accounting and promoted as such.

Morrison (10) pointed out the differences between the financial concepts involved in business and those involved in educational administration. His concept is that capital invested in the school plant must yield valid returns. These returns are interpreted through the values that education creates which he lists as: (a) utilization of productive capacity; (b) improvement of the demand for necessities and luxuries; (c) development of increased purchasing power; (d) development of thrift; (e) population control; (f) expansion of the professional vocations; and (g) growth in economic intelligence. Wehn (11) raised again the three bases for public school accounting: accrual; income and expenditure; and cash. After some evaluation he concluded that the best basis for public school accounting is income and expenditure. Hanley (7) supported the badly exploded assumptions of the "imputed economic costs" theory in public accounting by drawing a direct analogy between public and commercial accounting. He recommended the inclusion of depreciation in determination of per capita raw costs. Since the opposite point of view (depreciation as a continuing element satisfied through upkeep) has even been presented seriously by the railroads to the Interstate Commerce Commission as a valid reason for the diminution of their depreciation reserves, Hanley's analogic assumptions do not appear to have great validity even by presumption.

Administration

Beach (1) classified and described the different forms of custody of school funds in the various states. After appraising the custodial aspect of revenue practices on the basis of safety, economy, responsibility, adequacy, simplicity, readiness for audit, and selection of personnel, he concluded that the depository system now in use in four states is far superior to the schoolboard treasurer system in nineteen states; the schoolboard clerk-treasurer system in five states; and the governmental treasurer system in twenty-three states. Brunstetter (2) made a study of certain aspects of fiscal procedure in nine New Jersey cities. While much of his investigation was concerned with the actual accounting, no recommendations were made with respect

to this activity. He did, however, recommend that the superintendent be made the chief executive of the board.

Dienst (4) studied the administration of endowments with special reference to the public schools and institutional trusts of Idaho, including their administration, accounting, and investment. He found that "endowment accounting is practically restricted to the making of documentary records and single entry bookkeeping. . . . The classification of accounts is confused and incomplete. . . ." Although a definite part of the state administrative program, there was neither unity nor plan for adequate fiscal management. General recommendations for improvement are made.

Internal Accounting

Reports on internal or non-public revenue accounting are limited to three, none of which makes any contribution to method. Kitson (8) described an internal system in connection with a school store and supply department. He reflected the commercial influence. His emphasis was on forms and their use. Miller (9) discussed the need for centralization of all intraschool organization funds into a single fund under faculty control. He described the organization and operation of such a plan in a secondary school. Carey (3) outlined the method used to place extracurriculum activities of the Beatrice, Nebraska, junior and senior high school on a sound financial basis. He developed three factors deemed essential: (a) democratic participation in control; (b) centralization of management; and (c) the creation of one fund for a balanced program.

CHAPTER II

Public School Budgeting

COMPARATIVELY little advance in budget technic has been made since the first reporting of literature in this series. Emphasis since 1932 has been upon the need for budgeting and the developments of refinements in the technic of budget building.

Principles

Simpson (27) considered the budget functionally and defined it as "the financial plan for the enterprise or function of education during a given period." The budget is a tool, a means, an instrument which introduces orderliness in the financial processes for the purpose of advancing the educational welfare of the children. The budget must, therefore, be a facilitating control designed "to smooth and render orderly" the administration and the progress of the schools. A good budget should be an evolutionary process which constantly approaches even though it never attains perfection. This involves a number of important factors, including particularly (a) a careful determination of the relative values of the various elements of the educational program, and (b) a consideration of each budget as a link in a process of long-term financial planning.

Simpson stressed particularly the importance of the appropriation act by the board of education or other governmental authority whereby the budget is put into effect. The appropriating act should be clear cut, so worded that its interpretation is unmistakable, and should be legally recorded in the proceedings of the appropriating body.

Since a perfect budget cannot be developed, provision must be made for revision and transfer of items in event of unforeseen conditions after the budget has been adopted. The control of revision or transfer should rest in the board of education, but should be exercised only on recommendation of the superintendent. Simpson discussed two methods by which revision may be made: (a) formal rate of transfer, and (b) use of the allotment system. He favored the former for small school districts and pointed out certain advantages in the latter for large city systems. He also discussed the value of recording encumbrances, showed how it helps to interrelate budget administration and accounting, and strongly advocated its use.

Morrison (22) described and analyzed the fundamental essentials of an adequate accounting system. He presented a budget form that may be used as a guide in developing budgets. He reflected the functional point of view in the administration of public school finance. Pratt (25) advocated six ways of improving the financing of public education. The last three are concerned with budget. He stressed the importance of budgetary control

and research in its preparation. He also presented the need for publicizing the budget so that the people may be kept informed.

Baskerville (13), approaching the same problem from the standpoint of the board of education, discussed the position of taxation in relation to expenditures. He held that the final budget must always be based on the ability of the community to pay. He agreed with Simpson on the need for constant modification of the budget, although his reason was economy and not primarily changing need. Although his approach was from the legislative standpoint he agreed fundamentally with the functional viewpoint.

A yearbook of the Department of Superintendence (23:190) reported that sound budgetary practice involves a "complete educational and financial forecast, based on past experience, present conditions, and future needs" and should include: "(1) the *work* plan, which is a definite statement of the educational policies and program; (2) the *spending* plan, which is a translation of the accepted policies into proposed expenditures; and (3) the *financing* plan, which proposes means for meeting the cost of the educational program." Two types of budget were discussed: (a) the long-term budget and (b) the annual budget. This yearbook stated that the superintendent should be primarily responsible for the preparation of the budget. It also indicated how the budget aids in making school administration economical and discussed adjustment of salaries, assignment of personnel, reorganization of classes, organization and integration within the school system, construction and maintenance of school buildings, and purchase of supplies and equipment.

Gibson (18) held that boards of education should be independent of municipal governmental authorities in financial matters. He defined the budget as a continuous plan of financing and spending and discussed the preparation of the budget through questions to be answered. He advocated preparation of the budget by the superintendent with the approval of the board of education and stated that the success of a budget depends on its intelligent use.

Administration and Organization

Castle (14) discussed the responsibilities a superintendent accepts in endeavoring to administer his schools in terms of a budget. He held the superintendent responsible for the preparation, presentation, and administration of the budget. The causes of failure to remain within a budget are listed. He outlined a plan for classifying expenditures, for keeping information on contract obligations on hand, and for keeping unencumbered balances up to date. He cited plans to provide for unforeseen contingencies and discussed responsibility of furnishing information so that appraisal may be made by the board of education.

Engelhardt and Campbell (16) made an intensive study of school budgets in medium-sized communities and presented a comparison of school budgets from school systems in towns of 20,000 to 50,000 population. They dis-

cussed the deficiencies of the budgets studied and called attention particularly to lack of uniform classifications and to omission of statement of anticipated receipts.

De Young's study (15) of budgetary practices in 821 city school systems is the most comprehensive investigation reported. His dissertation presented an analysis of city budgetary practices throughout the United States on the basis of replies to a comprehensive questionnaire. He discussed the preparation, presentation, adoption, and administration of the budget. A preliminary checklist of budget format and content, which may be used as a guide by the budget builder, was developed. The study reflected the functional theory of school finance. "The budget functions as a facilitating device for educating the child. It is a means, not an end. The school does not exist to serve a budget; the budget is the servant, and education is the master."

Pickell (24) stressed the need for operating under a budget detailed to the least item of expense, based on a clearly conceived program of education, and planned to anticipate criticism and to justify the expenditures proposed. He declared that the budget is secondary to the program of education which the community can afford. Three fundamental requirements for improving budgetary procedures were presented: (a) the superintendent should be responsible for the budget and for the accounting system; (b) the accounting system should facilitate comparative and per capita cost studies; and (c) the budget should be the result of cooperation on the part of key people in the system and of cost studies of all items. He felt that each member of the staff should anticipate needs. The budget should be accompanied by information as to how every proposed expenditure was determined, including budget amounts and actual expenditures of the preceding year with explanation of increases or decreases for the new school year, figures on enrolment, per capita costs of supplies, and administrative and supervisory costs. The budget should be developed on the basis of an educational program approved by the board previous to the preparation and presentation.

Fowlkes (17) emphasized the superintendent's responsibility for building (preparation and presentation) and administering the budget. He advocated spending on the basis always of what is needed, not what may be secured. His recommended budget procedure is presented in conjunction with the system of accounting reported in Chapter I.

School Plant Budgets

Jones and Misner (21) published budget plans for a new school building. The receipts cover:

1. Income from sale of bonds
2. Income from current budget appropriation for capital outlay
3. Income from donations
4. Income from other sources such as sales, etc.

The expenditures cover:

1. Cost of bond issue
2. Educational survey and consultation
3. Purchase of site
4. Surveying the site and making test drillings
5. Educational equipment
6. Building or construction contract
7. Architect's fees
8. Athletic field, playground, and landscaping
9. Special services, such as building inspector, insurance, janitorial service before building is completed, and other miscellaneous items.

Jones (20) listed the sources of income, in addition to bond sales, which are frequently overlooked in developing the building budget. He also listed items of expenditures which frequently escape notice until the last minute.

Depression Budgets

Guy (19) described on the basis of a survey of 197 school systems how school officials have readjusted budgets to meet reductions in income. Included are economies in administration, supervision, personnel, supplies, and curriculum services. He pointed out the dangers that are likely to result from decreased efficiency.

Appraisal

Seyfried (26) made a study of budgetary practices in 128 school systems of New Mexico from the results of a questionnaire study. He then attempted to see how well these practices conform to the recommendations of authorities in educational administration. His findings were that (a) school financial matters in New Mexico are largely in the control of non-educational boards; (b) educational needs must therefore be determined mainly on the basis of arbitrary rules according to inexperienced opinion; (c) a majority of the superintendents favor the present plan of budgetary procedure; and (d) there is sufficient opposition to the prevailing plan to indicate that changes are needed.

CHAPTER III

Revenues and Taxation

DURING the period covered by this review, there has been a continued increase in the amount of factual information as well as of periodical literature dealing with the subject of revenues and taxation. This suggests a continuation of the increase in realization by school people of the fundamental importance of school support in its entire social and economic setting. The conditions of financial support of schools over the period covered in this issue of the *Review of Educational Research* have been of particular significance from the standpoint of lending opportunities to the research worker for study of the traditional mechanisms under the stress of worldwide economic chaos.

The Critical Issue of Adequate School Support

Following forced retrenchments which came throughout the country in the early part of 1931 and later, a great amount of attention of school authorities has been given to the matter of need for providing all schools of the United States with ample and adequate revenues. There have been a number of general treatments of this matter. A report of the National Education Association (96) dealt with the recent reduction in school revenue, discussed the relationship between school finance and municipal finance, treated the matter of tax relief and tax reform, and took up the issue of the optimum size of local units for purposes of rural school finance. Reusser (112) narrowed the crisis to a problem primarily of taxation. The Citizens Conference on the Crisis in Education (41) attributed school fund retrenchments essentially to tax delinquency, lowered assessments, declining tax rates, and bank failures. Norton (106) studied the effects of the depression on the support of education in the United States and attributed obsolescence in traditional methods of taxation to the increase in variety of forms of tax-paying ability, greater inequality in the distribution of wealth, and the instability of local revenue sources because of economic specialization. He proposed the reorganization of school administrative units and the assumption of greater responsibility by both state and federal governments for raising school revenues.

Authoritative thinking has shown the need for further reorganization of state taxing systems because of (a) the statewide nature of the administration of newer types of taxes (37, 63, 65, 68, 71); (b) the continued excessive burden placed upon the property tax; and (c) the need for its relief so as to provide tax leeway by which local communities may exercise local initiative (46, 88, 89, 90, 92, 93).

A number of students of the problem of revenue and taxation for schools have considered with care the fundamental principles of taxation per se. The National Tax Association (102) set forth and developed a practical application of the following principles:

1. Every person having taxable ability should pay some sort of direct personal tax to the government under which he is domiciled and from which he receives the personal benefits that government confers.

2. Tangible property, by whomsoever owned, should be taxed by the jurisdiction in which it is located, because it there receives protection and other governmental benefits and services.

3. Business carried on for profit in any locality should be taxed for the benefits it receives.

Among the general publications, which took up the matter of taxation from the standpoint of its importance to public education in particular, have been studies made by Lutz and Carr (82) and Mort and Lawler (95). The Joint Commission on the Emergency in Education (71), through conferences of school administrators, pointed out the need of developing a balanced system of taxation; of distributing the tax more equitably; of discontinuing dependence for school support on the property tax or any single revenue source; of transferring a larger part of support from local to state governments; and of developing more effective tax administration and collection systems. This Commission also made recommendations for state and local governments as to devices to be considered and matters of expediency during the depression.

Tax delinquency and local school revenue—Bird (30), in a study of fifty representative cities, found the average delinquency 10 percent in 1929, 16 percent in 1931, and 19 percent in 1932. In some communities the proportion of delinquency had approached 50 percent. Others have agreed with Haig (65) that the current situation of lack of adequate school revenue has more fundamental causes than the mere shortcomings of the revenue system, and that the amount of revenue for schools and school purposes in the United States as a whole is quite directly correlated with its economic source.

With curtailment of revenues from local sources and the crisis in local school support, an increasing number of students of school finance have come to the appreciation of the shortcomings and abuses of the property tax in the United States. The National Survey of School Finance (127) pointed out that closer association was needed between school support and the entire social basis for education. Carr (37) showed that several states had entirely given up the property tax as a source of state public revenue, and that public education in the future will demand an increased amount of our social income, provided either through additional public revenues, or through the use of funds now spent for other functions.

Attempts have been made to measure the improvement of school systems as they are related to improvements in financial support. Such studies were undertaken in Delaware by Daugherty (45) and in New Jersey and Maine by Mort (89, 92).

Tax relief and equalization—One of the remedies for the difficult fiscal situation through which the schools have gone during this period has been the equalization of educational opportunities through increased state support as a means of property tax relief. The extent of equalization in the United States was summarized by Mort and his associates (93) in the National Survey of School Finance which made a comparison of sources of school revenue from state and local governmental units as well as the extent of equalization in each of these states.

Pitkin (110) found that during previous depression periods, when owners of real estate had resisted the pressure of property taxation, new sources of revenue had been found, and that increased activity toward equalization of the tax burden and providing equal educational opportunity had existed then as now.

Great attention has been given of late to the use of state aid as a device for relieving inequitable conditions of taxation. The tendency towards complete state support of a foundation program is found in such plans as those recently put into operation in Indiana, West Virginia, North Carolina, and Ohio. When taken together with the tendencies in this direction in California, New York, South Carolina, and Maryland, it may be of considerable significance as a departure from the strict small fund equalization basis. This tendency has been confusing to many persons who have had in mind simply the equalization of burden among communities. The newer studies of state school revenue systems have treated this problem rather extensively. Particular reference may be given to the work of Mort in this direction, assisted by Davis in Ohio (88) and Lutz in New Jersey (92) and Maine (89).

Dreesen (49) concluded that in Oregon, equalization of school tax burden had been obtained with but partial, if not questionable, success. Of the funds raised in that state under the state school fund law, 85 percent finds its way back into the very districts from which it was produced. Mort, Simpson, and others (94), in a survey of the effects of equalization in New York state, found a tendency for poorer districts to devote more of the new aid to tax relief and less to educational needs, and for the wealthier districts to devote more to educational needs and less to tax relief thruout the four years from 1926 to 1930. Staffelbach (119) studied the extent of the reduction of taxation for schools and compared the reduction in support of schools with the reduction in taxation for the support of other governmental enterprises in California.

Trends in More Adequate Provisions of School Revenue

There have been several general treatments of trends in possible future developments of sources of revenue for the support of public education. Carr (37) suggested that the trend of giving up the property tax as a major source of state public revenue will probably continue. He anticipates a greater assumption of responsibility for school costs by state and federal governments. This will involve the use of new state taxes which will relieve

the local property tax burden. An extensive review of taxation in the United States since 1913 was made by the President's Research Committee on Social Trends (68).

Sources of school revenue other than taxation—Odell (107) found that private contributions to elementary and secondary education more than doubled from 1927 to 1929, and that the percent of total philanthropy favoring education increased from 8.4 percent to 19 percent. He concluded that if endowments do not exceed an amount which will provide less than a sufficient income for meeting the entire cost of public education in a community, the local citizens will, through tax reduction, make sure that a disproportionate sum is not expended on education.

Dienst (48) pointed out the need of new legislation and control for the administration of endowments. A summary of technics for the protection of school incomes with reference to practices in collection of taxes, assessing property, collection of tuition, and incomes from rentals, fines, and other sources, was made by Linn (80).

Legal aspects of providing school revenue—In addition to summaries of taxation in school revenue legislation which may be found in regular government sources and in such compilations as that of the Tax Research Foundation (122), several studies have brought together legislative provisions for school support in the states. In the National Survey of School Finance (93), tabulations were made showing the sources of revenue in general, and of education in particular, from 1925 to 1930, for each state and for the United States as a whole. The National Education Association (99) found that the number of states taxing personal income and the number of states taxing corporation incomes more than doubled in the period from 1928 to 1933. In 1933 the number of states levying general sales taxes more than doubled. There were two states with chain store taxes in 1928 and nineteen in 1933, and a slight increase for the same period in the number of states taxing tobacco sales.

Yakel (132) studied court cases relating to properties which are subject to taxation, the purposes of taxation for schools, the matter of tax levying, its control, and the rights and remedies of taxpayers. A similar study was made by Garber (59) who showed, in addition, that courts agree that school taxes are not local or municipal taxes in any sense. For the year 1933 Keesecker (73) found that at least twelve states (California, Idaho, Indiana, Minnesota, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, Washington, and West Virginia) assumed increased responsibility for public school support.

Coordination of sources by governmental units—There is increased recognition of the need for coordination of tax administration. Heer (68) showed that this is true essentially because (a) non-property taxes must be shared with the federal government; (b) the applications of income or business taxes operate in more than one state; (c) the development of taxes to supplement those on property arises from wide differences in systems in

various states; and (d) newer taxes are, with few exceptions, uniform statewide taxes administered by state agencies. This problem has been studied in greater detail by Haig, who is now working on a publication which should be of great assistance to those encountering the issues arising out of tax reform measures (63). An analysis of the integration problem in Germany has been prepared under his direction by Wueller (131).

Evidence of the need of coordination of the various tax systems, particularly during the depression, when certain sources, such as the property tax, are subject to heavy burdens, may be found in a report of the House Committee on Ways and Means (126). In a study of cities over 10,000 in population, Foster (54) found 14 percent of city revenue coming from the state, 5 percent from the county, and 0.2 percent from the federal government. He found a decrease in general property tax for current expenses of 5 percent, but for debt service an increase of 3.7 percent.

The National Education Association (99) found a growing tendency to dedicate tax revenues for state school support (see Table 1). Pearman (109), however, reported that for the decade ending in 1930 in the United States as a whole, the proportion of dedicated tax revenues to total revenues had decreased and that there were noticeable tendencies toward increased reliance upon general revenue appropriations.

Pearman claimed the necessity for the dedication policy for the preservation of financial support during periods of economic stress, because of the fact that the general revenue appropriations do not offer to schools the security that the dedicated tax revenue seems to provide. He proposed that especially when a state has adopted a plan of distribution based on satisfactory and objective measures of need, the general revenue policy is preferable. Both approaches to this problem were studied in the National Survey of School Finance (93) which, in addition, pointed out the advantages of the "overflowing pot" plan, which provides for the dedication of the first returns of a given tax, the yield of which is larger than necessary to finance the desired program. This is the plan typified by practice in Massachusetts.

The studies of Proctor (111) and Little (81) attack the problem of the reorganization of administrative units and concur in the belief that consolidation would mean potential reduction in school costs and more even spread of the tax burden. The United States Office of Education (47) studied school administrative units and reported the extent to which the general property tax is used in connection with the county as a unit in school financial administration.

Taxation

The most complete information concerning the status of taxation in the various states and of countries other than the United States has been prepared by the Tax Research Foundation (121, 122). In the latest of these publications may be found charts of all important tax systems of the world, synopses of taxation for all important jurisdictions, and charts of tax sys-

tems recommended by authorities and by various interest groups. Summaries of state and federal taxation for school purposes have been presented in popular form by Brant (32) and Davis (46). In addition to the general comprehensive sources of information (33, 34, 35, 56, 62, 74, 83, 87, 124), special and detailed studies of taxation are outlined below.

TABLE 1.—SCHOOL REVENUE OTHER THAN PROPERTY TAX, 1931 AND 1933, AFTER THE NATIONAL EDUCATION ASSOCIATION (99)

Type of tax	Number of states levying		Number of states allocating all or part to public education		Number of states in which tax contributes to education indirectly through significant appropriations from the general funds	
	1931	1933	1931	1933	1931	1933
Personal income	18	24	6	11	9	10
Corporation income . .	20	26	4	8	12	14
General sales	7	17	0	7	6	9
Chain store	10	19	2	9	4	7
Tobacco sales	13	16	5	6	5	6

The property tax—King (75) found twenty-one of the thirty-two states which have earmarked amounts of state revenue for education resorting to the property tax method. Fowlkes and Peterson (55), in investigating the occupational distribution of individuals paying a real estate tax in Madison and Dane Counties, Wisconsin, found that taxes in the state bore little or no relation to ability to pay. Heer (68) reported that the country as a whole has made no conspicuous progress away from the general property tax during the period 1910-30, but that some leadership has been evidenced in certain states. Delaware in particular decreased its load on the general property tax by 56 percent from 1913 to 1930. Among the eighteen states which showed a decrease in general property tax burden there was a great disparity as regards the other sources of special taxation. Efforts have been made in some regions to correct errors in previous methods of property taxation by (a) distinguishing between the various kinds of property, and (b) introducing the principle of differential effective rates.

In a study of the distribution of public utilities valuation in connection with revenue for public school systems in the state of Washington, Gaiser (58) found that such distribution was unequal in spite of the fact that the services of public utilities corporations are uniformly used. He developed this as an argument for removing utilities taxes from local jurisdictions and subjecting these corporations to uniform statewide taxes. Vaughan (128) made a critique of methods prescribed by law in Missouri for de-

termining rates of taxation on property of public utilities for school revenue, finding that such methods were inequitable in that state.

Fuller (57) found that a majority of courts hold that public school property actually used for school purposes may not be assessed for local improvements. Courts of all states refuse to permit special assessment of school lands granted to states by Congress in absence of any specific provisions permitting such action.

Legislation limiting the rates of local property taxation for school purposes was reviewed by the National Survey of School Finance (93). Leet and Paige (78) discussed the growth of tax limitation laws and evaluated provisions in Illinois, Indiana, Iowa, Kansas, Michigan, Ohio, Washington, and West Virginia. Constitutional limitations have also been studied by Lentz (79).

Income taxes—A rather complete study of the state income tax by Blakey and others (31) dealt with various features of state income taxes, their administration, their operations, and effects. He applied the findings in particular to the state of Minnesota. Martin (85) showed how yields from personal income taxes are distributed with the possibility in view of utilizing federal personal and corporation income taxes for the support of education. Goldthorpe (60) analyzed the possible incidence of such taxation.

The National Education Association (98) summarized the present use of the corporation income tax as a source of school revenue in the United States for the year 1931, and discussed the relation of its yield to school costs, showing the amounts of collection for such revenue and receipts from other sources. Ford (53) studied the allocation of corporate income for the purpose of state taxation.

Sales taxes—The most complete study of sales taxes during this period was made by Haig and Shoup (64). They treated the general sales tax from a historical standpoint, a legal standpoint, and as a state fiscal measure, giving outlines of its utilization in the several states, and the reactions of taxpayers to its use. The National Industrial Conference Board (100) treated the general sales tax as to yield, administration, relation to income taxes, and incidence. Carpenter (36) reported that this tax was rapidly spreading, and found that up to November 1, 1933, twenty-two states had legislation providing for taxes which might be classified as sales taxes. His study reported the dates of original enactment and subsequent modification.

Individual state and local studies—Comprehensive tabulations of the arrangements of tax systems in all of the states of the Union have been made (93, 119, 121). The National Education Association (99) summarized legislation concerning state tax surveys and commissions during the period 1929 to 1933. Studies are in progress by Mort (91) and Chism (40) which estimate potential yields of taxes in various states under theoretically ideal and practically possible tax plans for the purpose of determining the relative ability of states to support public education. Mort's investigations have been undertaken as one step in determining satisfactory measures for possible distribution of federal revenues to the several states. Chism's investiga-

tions look toward the refinement of Norton's measures of the relative ability of states to support education.

Various aspects of the tax situation in individual states have been studied in:

Arizona (76)	New Jersey (92)
California (42, 50, 119)	New Mexico (117)
Delaware (44, 45)	New York (94, 103, 113, 115, 118)
Idaho (48)	Ohio (52, 88)
Indiana (84)	Oregon (49)
Kansas (70, 104, 130)	Pennsylvania (105)
Maine (89)	Tennessee (123)
Maryland (43, 86)	Utah (39)
Minnesota (31)	Virginia (116)
Missouri (66)	Washington (58)

During the period there have been a large number of investigations of specific localities undertaken by students as theses for master's degrees. These are listed in the bibliography prepared by the United States Office of Education (61). Swift (120) has shown a continued interest in research dealing with the modes of financing education in other countries.

CHAPTER IV

Research and Survey Technics

SINCE methods of research in school finance were discussed in a previous issue of the *Review of Educational Research* (138), any exhaustive treatment here would be out of place. There are, however, a few areas which, because so much effort has been directed toward finding or improving technics, merit special attention.

Salary Schedules

The first of these areas has to do with salary schedules. Changes in living costs and cutting of salaries have forced increased attention toward determining proper salaries for teachers. It is increasingly evident that the commonly used indexes of wages and living costs do not fit teachers very well, because of their necessarily higher living standards.

Eells (134) studied expenditures of teachers in Fresno, California, and showed that their apportionment of living cost differs widely from the standard of the United States Bureau of Labor Statistics. Since the items which are heavily weighted by the Bureau, particularly food, have had a larger decline in price than have other items which are less heavily weighted, such as insurance, the decline in living indexes, as shown by the Bureau of Labor Statistics, is larger than it should be for teachers. By reallocating the money in terms of teachers' standards of living, Eells found that the cost of living index should be 27.2 percent higher than that compiled by the Bureau of Labor.

Rutledge and Huntington (139) took a slightly different approach. They set up "quantity and cost estimates" as a basis for determining adequate salary standards. They established careful estimates of the amount and quality of each kind of goods needed by teachers with various numbers of dependents. They claimed that these estimates are better than actual records, since the records are varied at times by unusual conditions, such as sickness.

Teachers are primarily interested in the amount of individual salaries, but the school district must also consider the total cost of all the salaries. Elsbree (135) has added greatly to the accuracy of estimates for the cost of salary schedules by his technics. He has five major steps:

1. Subtract the turnover.
2. Move the remaining teachers to the next year's step on the schedule.
3. Add the replacements at the most probable place on the schedule where replacements will be located.
4. Add the new staff members necessary to take care of growth in the system, again at the most probable point on the schedule at which they will be placed.
5. Sum the cost.

The technic is very carefully worked out and includes predictions of changes in position on the schedule due to added training.

Equalization of Educational Opportunity

It is also natural that much attention should be directed during these years toward developing important ways of providing equalization of educational opportunity. Mort (137) continued his work of perfecting technics for state equalization and has recently given attention to the federal problem. He presented alternative technics, one using average daily attendance data, the other using census data. He has computed a cost differential between high-school and elementary-school pupils, and a differential to increase amounts needed in rural areas, the latter increasing with sparsity of population. Indexes of cost of living for each state are also provided.

Cocking (140) found, after trying several criteria, that density of population serves as an effective basis for varying state aid allotments so as to care for varying abilities among the school districts of Tennessee. For purposes of distributing state aid the sparsely populated counties are allowed relatively more teaching positions than the more densely populated counties. His use of the word "ability" is somewhat broader than that commonly applied, but the additional meaning seems to carry much merit. It is no doubt true that the ability to do the thing which needs to be done is more important than mere ability. The ability to educate a few children scattered over a wide area means more in terms of money than the ability to educate the same number of pupils living close together.

Unit Costs

Because reductions in budgets are the order of the day it has seemed important to know more about unit costs so as to be able to estimate as accurately as possible the financial result of removing parts of the program. Moehlman (136) dealt with advantages and disadvantages of architects' units of measurement and found that "physical envelope efficiency" is the best of these measures. This he defined as "the number of cubic feet of building secured for every square foot of shell area." He pointed out that educational measures must go somewhat further than architects' measures, and added to the measure given above, the factor of the ratio of instructional area to total area in the building. When this factor is multiplied by the physical envelope efficiency, an excellent unit is obtained.

Davis (133) sought to develop a basis of calculating costs of high-school subjects that would show variation due to cost of plant, supplies, and other items besides teachers' salaries. As a result of using a new technic, he showed that teachers' salaries do not necessarily vary directly with all other costs as some studies have implied. In two subjects, the teachers' salary cost may be the same, but total cost may differ widely.

CHAPTER V

Capital Outlay, Indebtedness, and Debt Service

BECAUSE of the unusual financial and banking situation which obtained during the period covered by this issue of the *Review of Educational Research*, debt and capital outlay problems appear in somewhat distorted form. Expenditures for capital outlay, except with federal aid, and issuance of new bonds for purposes other than financing of relief were at a low ebb. Bond refunding, and new limits on the issuance of bonds attracted unusual attention.

Interest rates and prices of bonds have gyrated wildly, but since the day-to-day research on such matters is covered adequately and continually in such publications as the *Daily Bond Buyer* or the *Commercial and Financial Chronicle*, these matters need no treatment here. Neither is it necessary to attempt a complete bibliography, since the *Education Index*, the *Bibliography of Research Studies in Education* issued annually by the United States Office of Education, and other reliable sources serve that purpose adequately.

The old battle of bonding versus pay-as-you-go is still going on. An excellent treatment of the present status of the struggle was provided by Essex (144). He reviewed other studies and showed in his own work that each of the two plans has advantages, at least under present conditions. Bonding is more uniformly feasible because a small district can thereby scatter the cost of erecting a building over a period of years. Essex suggested the desirability of cooperation among districts so as to gain the financial advantages of the pay-as-you-go plan without the disadvantage of enormous taxes over a short period. Possibly something on the order of a building and loan association for school districts would serve. He pointed out the need for further research to determine the value of money to the taxpayer. This is crucial and determines whether or not it is better to leave the money with the taxpayer over a period of years and borrow as a community, or to take the taxpayer's money and avoid community borrowing. Eells (143) added some concrete evidence from Fresno, California, when he showed how that city spent four and one-half million dollars to buy two million dollars' worth of buildings. The reason, of course, lies in the interest paid on its 5 percent bond issue of 1919-54. Cowen (142) presented all three for financing capital outlays. Partly by means of excellent charts and tables he showed the advantages and disadvantages of the reserve fund, the bonding, and the pay-as-you-go methods. He pointed out that the advantage in terms of tax paid is in favor of the reserve fund, but that pay-as-you-go leaves the money with the taxpayer until needed. The study is a good one, but further emphasis on the danger of loss or misappropriation of reserve funds would be desirable.

Those concerned with school or municipal bonds watch the trend of the relationship of bonded debt to property and to population. Two representative studies on this matter are by Rightor (149) and by Holy (146). Rightor found that bonded indebtedness of 289 cities rose from \$109.04 per capita in 1931 to \$114 in 1932. For 73 comparable cities over 100,000 population the per capita figures were \$92.84, \$100.66, \$106.65, and \$113.97, respectively, for the years 1929-32. Holy found that the school bonded debt per pupil in cities of Ohio dropped from \$222 in 1933 to \$208 in 1934. Holy's study also threw light on the refunding problem and showed that the cities concerned refunded \$2,523,278 of bonds in 1934 as compared with \$2,301,619 in 1933. Since we learn from the same study that these cities had outstanding school bonds of \$146,635,000 the amount refunded was less than 2 percent of the total. Chatters and others (141) dealt with the even more crucial question of municipal debt defaults and provided information designed to be helpful to officials and citizens as well as bondholders. He discussed particularly ways and means of safeguarding municipal bonds and avoiding default.

The issuing of bonds and the limitations upon such issuance have also been studied. Hill (145) showed how a bond issue may be carried in these difficult days and provided ideas which might be used by other superintendents. Keyworth (147) analyzed court decisions of 1932 on bond-issuing power of boards. Pierce (148) presented information concerning new limitations on bond voting, showing that ten states have by statute or constitutional amendment restricted voting on local bond issues to property owners. This tendency deserves careful attention from all school people, since it reopens a question which had formerly been regarded as settled.

CHAPTER VI

Finance and Business Administration in Institutions of Higher Education

THE increased attention given to the intensive study of problems relating to finance and business management in the field of higher education during the past two years is evidenced by the amount of publication dealing with that subject. One monthly periodical, the *Educational Business Manager and Buyer*, devotes its space entirely to the general subject of finance and business management and chiefly to the field of higher education. The various bulletins and the final report of the National Committee on Standard Reports for Institutions of Higher Education (183, 184) have made a significant contribution to the study of procedure. The various academic periodicals have all carried some material relating to higher education finance as have the various accounting journals. Bulletins from the United States Office of Education and from the foundations and associations have further augmented the list.

Interest in this subject during the past biennium has been centered largely upon (a) economy, (b) procedure, and (c) statistics. The literature of the period, however, has included a number of noteworthy discussions on sundry topics, some of which have not received previous attention.

Economy

The financial conditions faced by the colleges and universities, became particularly pressing during 1931. They resulted in several important contributions to the problem of budgetary readjustment. A comprehensive analysis of this problem was presented by Christensen (155, 156). Constructive proposals were also offered by Compton (157), Maclean and others (176), Cummins (158), Daines (159), Rainey (189), Russell (195), S. W. Smith (199), Sproul (200), and Woodmore (208). A highly serviceable study of the matter with relation to the moderate-sized college was presented by R. L. Kelly (173). A large-scale review of the whole problem, with important recommendations, both with respect to the emergency conditions and to long-range considerations, was presented by Hill, F. J. Kelly, and Savage (170).

All of these studies emphasize the importance of an intelligent, thoroughgoing analysis of academic procedures in relation to budget resources. The necessity of such an analysis has been intensified by the budget limitations of this period. Its value, however, is likely to be far-reaching and it is a program which should not be suspended, even though the emergency may

pass. Several institutions have set up more or less permanent organizations in the form of statistical bureaus or faculty committees, through which a continuous review of all administrative and educational processes can be conducted. The emergency has called also for a search for ways of reducing costs of business administration and physical operation. A large part of the discussion of business officers and the literature dealing with their activities has to do with this subject. Notable among the contributions along this line may be mentioned those by Christensen (154), Franke (165), and C. E. Reeves (190). Christensen set forth some fundamental principles on which the business organization should be planned. Franke, who is one of the few public accountants who have interested themselves especially in problems of college and university administration, presented a discerning analysis of institutional business office problems from an independent point of view. The discussions by Reeves provide an unusually complete outline of problems to be met in physical plant matters and helpful methods of meeting them.

Purchasing received special attention by Dinsmore (162), Forbes (164), Gregg (169), Phillips (187), and Slater (197).

Problems of reduced income gave rise to considerable discussion of the question of determining the unit cost of instruction. Brown (152, 153), Hungate (171), Maclean (177), and Van Dyke (204) dealt with this subject. The National Committee on Standard Reports (183) issued a comprehensive review of the entire subject. The Committee also developed suggested plans for computing costs which, however, are offered as an auxiliary and optional matter. The Committee recognized the limited usefulness of such figures, and the extreme difficulties of unit cost comparisons between institutions.

The period under review brought forth some significant discussions of the technic of budget making, including a bulletin by the University of Denver (161) and discussions by Middlebrook (178) and Phillips (186). The North Central Association adopted during the period an important new program for accrediting institutions recognized by it, in which adequate methods of accounting and reporting play an essential part. The procedure prescribed by it with reference to financial administration, physical plant, and athletics is described by Russell (194).

Procedure

In the field of procedure an epochal study, relating to accounting and financial reporting, has been carried on by the National Committee on Standard Reports through the aid of the General Education Board and with the cooperation of the United States Office of Education and other bodies. This Committee devoted itself to the formulation of principles relating to financial reports and securing the acceptance thereof. Its suggestions have been put forth from time to time in the form of sundry bulletins (183) and articles in the various periodicals. Its material has been revised and re-

printed (184). Several articles by Morey (179, 180, 181), the chairman of the Committee, and Franke (166) interpret and discuss the Committee's proposals. Aziere (150) made an interpretation of the proposals as they relate to Catholic institutions.

The recommendations of the Committee with respect to general accounting and reporting include:

1. The strict segregation of funds in accordance with their character
2. The classification of income and expenditures in accordance with a uniform plan.

The classification of funds adopted by the Committee is as follows: current funds, loan funds, endowment and other non-expendable funds, and plant funds. Current funds are subdivided into general or unrestricted funds and restricted funds. Funds subject to annuity agreements are accounted for as a distinct group in the endowment fund section. Funds of significant amount handled by an institution but belonging to others are to be set out separately as "agency funds."

The segregation of funds in this manner is considered by the Committee an essential to sound financial administration. Only in this way may funds that are earmarked for specific purposes be kept available for those purposes, and funds which are designated for endowment be kept inviolate of intentional or unintentional expenditure.

Classification of income and expenditures is based on the important segregation of expenditures for educational purposes from those for auxiliary activities such as residence halls, bookstore, and similar quasi-business undertakings. A uniform functional classification is suggested for the educational budget, the headings being:

1. Administration and general expense
2. Instruction
3. Organized research
4. Extension work
5. Libraries
6. Physical plant operation and maintenance.

The effects of the proposals of the Committee have been significant, even though those proposals have been before the higher educational world only for a little over two years. Already the principles advocated by the Committee have been adopted by the various church boards and by the North Central Association, as well as by several of the states. They have been endorsed by the various business officers associations and other educational bodies. The classifications have been followed by the United States Office of Education in its statistical reports. Great numbers of institutions of all sizes and types have already adopted the Committee's proposals either in detail or in substance. More progress toward general uniformity and a high level of excellence in the field of accounting and reporting has been achieved during the past few years than in all the previous history of college and university administration. It appears that the work of the Com-

mittee may stand for a considerable time as a standard of performance in this field.

Statistics

In the field of statistics a notable advance has been made by the United States Office of Education (203), which is the principal agency assuming responsibility for this subject. It has not only materially improved its reports, but has issued them much more promptly than in past years. The preliminary report for the year 1933-34, for example, was issued in the early fall of 1933. A more complete report, with estimates for 1934-35, was released in January, 1935, by Badger (151). A report on the land-grant colleges for 1934 by Greenleaf (168) was issued in November, 1934. Prompt publication of such material makes it of much greater service and interest to institutions.

The form and classification of the reports of the Office of Education likewise have shown marked improvement. This is partly due to the work of the National Committee on Standard Reports, there having been a close cooperation between the Office of Education and that Committee during this period. A period seems to have been reached in which the classifications will become more fixed and permanent. Through the acceptance of the suggestions of the Committee, institutions will likely have their own accounts and reports in form so that they can more readily compile the information requested by the Office of Education. In this way mutual benefits result, including greater ease to the institution and more promptness on the part of the Office of Education in bringing together and publishing the material and consequently greater satisfaction to those who use the statistics.

Other Studies

Among the college surveys made in the past two years, the one carried out at the University of Chicago by F. W. Reeves and others (191) gave particular attention to business organization and administration. A separate volume was published dealing with this phase of the survey in which a critical and constructive analysis of the relationship of the business staff of the University to the educational organization was presented. A brief statement of similar relationships in other institutions was also included. Although the study had to do with the University of Chicago, the volume is important for reference elsewhere. A significant phase is the recommendation that the office of comptroller be made independent of that of the office of business manager and relieved of responsibility for direction of business activities, and that the comptroller's responsibilities be directed toward budgetary control, accounting, and financial reporting. The recommendation is further made that the comptroller have his primary responsibility directly to the board, but that, because of the necessity for close cooperation between the comptroller and the president, his appointment should be made by the board with the approval of the president.

A critical study of a problem which has been poorly understood and loosely administered was made by Welck (206) on annuity agreements. The difficulties arising in the past out of failure to abide by sound principles are clearly set forth. An institution which follows the principles advocated in dealing with such funds will avoid pitfalls incident to them. It must be said, however, that if these principles had been universally followed in the past, the number of such gifts probably would be very greatly reduced.

A timely and comprehensive analysis of the problem of state support of public education was prepared by Mort and others (182). Stevens (201) also added to the discussion of this important subject.

The Teachers Insurance and Annuity Association (193, 202) published two important bulletins relating to the problem of faculty retirement systems. These bulletins set forth the salient features of existing systems and suggested essential principles on which the financing of retiring allowances should be based. A timely discussion of the relation of fraternity and sorority houses to institutional housing programs was presented by Dyche (163) and Watts (205) at the 1934 Midwest Business Officers meeting. A related subject, that of the taxation of educational institutions, was analyzed in a separate article by Dalgety (160).

CHAPTER VII

Public Education Costs

NEVER before has so much attention been directed toward the cost of education, and the number of studies on the subject has been increasingly large. For an extended list of such studies the reader is referred to the *Education Index* or the *Bibliography of Research Studies in Education* issued annually by the United States Office of Education. The research for the most part deals with comparative costs or with unit or per capita costs. Those studies which are made with a view to effecting an immediate economy are reviewed in Chapter VIII.

School Costs and Other Costs

Many studies have been made to show how school costs compare with expenditures for other purposes. Typical of such studies is that of the Research Division of the National Education Association (215). This study showed that the cost of public schools in 1930 took only 3.35 percent of the national income; that public education takes only 25 percent of the total tax dollar; and that for each dollar spent for education we spend five for the purchase and maintenance of passenger automobiles. Comparative costs for various other expenditures were also furnished. Another comparative cost study was made by Davis (210) in which school costs were compared with government costs in selected important cities and states. This study showed that current school costs took, on the average, only 20 percent of the public expenditures in eight large cities, and that teachers' salaries took only 12.9 percent. In six important states, teachers' salaries accounted for only 16 percent of the total state and local taxes. These figures demonstrate the fallacy of cutting teachers' salaries as an important means of tax reduction.

Comparative School Costs

Of the many studies comparing the costs of the same service in different schools, those by Fulmer (213) and Satterfield (217) are representative. The former dealt with South Carolina schools and showed the decline in daily teacher salary cost of all white elementary schools. This figure decreases in amount from \$0.332 in one-teacher schools to \$0.197 in eight-teacher schools. This decrease continues with increase in school size up to fifteen teachers. Larger schools show slight increases. The data for high schools tell much the same story. The study also furnished figures on the cost of transportation which are combined with the above data to show the net financial advantage of consolidation. Satterfield's study covered only Minnesota districts having a population of less than 5,000, and showed

that the ratio of salaries to total current expense is greater in the larger schools and that the per pupil costs are larger in the smaller schools.

Comparative costs for the same services over a period of years are represented by such studies as that for New York City (219). This showed that the per capita cost in elementary schools dropped from \$103.75 in 1932 to \$97.21 in 1933, and that high-school and junior high-school costs declined in much the same way. Incidentally the study showed that for 1933, junior high-school costs were \$116.36 per pupil and senior high-school costs \$143.63 per pupil. Several other cities furnish excellent continuing figures through their annual reports. Notable among such reports are those for Boston, Pittsburgh, St. Louis, and Detroit.

The reports of the United States Office of Education have their usual valuable contributions. Notable among these is that by Comstock (220) which showed the distribution of current school cost among the usual items under which such costs are classified and the cost per pupil for the same items. This report showed that instruction received 78.4 percent of the current school dollar in 1933 compared with 77.4 percent in 1932. Operation gained from 9 percent to 10.6 percent for the period, while the proportion given to other expenses remained stationary or dropped. Eleven of the 297 cities included in the report show no decrease in per capita cost in 1933 from 1932. The rest show decreases ranging up to 41.7 percent. The cities are classified into groups according to size. Sixty-three and four-tenths percent of the cities over 100,000 population are covered by the report, but only 33.9 percent of those ranging from 30,000 to 99,999 are covered. For smaller cities the proportion included is too small to make the data of very much value. People who are interested in the cost of so-called fads and frills will find valuable information in addresses by Graham, Lake, and Warren (212), which give comparative costs for various types of school services in cities between the school years 1929-30 and 1932-33.

Unit Costs

Considerable attention has been directed toward unit cost studies because of the importance of knowing how to make budget cuts with maximum financial and minimum educational effect. Scates (218) pointed out some dangers in the use of these studies since they can be no better than the accounting system on which they are based. He also called attention to the fact that the basic function is not linear and that costs rise in a discrete manner somewhat like stairsteps. Ricksecker (216) studied salary cost per subject and found that English, social science, mathematics, commercial subjects, and physical education cost less than \$10 per Carnegie unit, while foreign language, natural science, fine arts, household arts, and industrial arts cost more than that amount. Lowrey (214), in a per capita cost study of the schools of Fordson, Michigan, covering school years ending in the calendar years 1929-33, found that the costs were \$165.73,

\$147.42, \$152.03, \$140.39, and \$198.67 respectively. Teachers' salaries account for 50 to 57 percent of these figures with the largest percent in the last year. Gooch (211) contributed to our information about costs in 6-3-3 schools as compared with 8-4 schools. By study of these in cities of more than 5,000 population in six eastern states he found that the per pupil costs for current expenses are about the same in grades 7-9 in the 6-3-3 type of school as in the 8-4 type; and that the costs in grades 7-9 are higher than those in grades K-6, irrespective of organization. He showed conclusively that the variation in cost is more a result of community ability or pride than type of organization. He found a correlation of .88 between expenditures in K-6 and 7-9 which indicates that the communities which spend liberally on their elementary grades below the seventh, also spend liberally on grades 7-9 regardless of the way in which they happen to be organized. Cornell (209) compared costs in high schools and elementary schools. His comparisons are based on data from thirty-three states and show the reasons for greater costs in high schools than in elementary schools. He provided ratios of costs in high school to elementary school for varying size of high schools. The ratio is lower in larger than in smaller schools and finally stabilized at 1.70 for high schools with average daily attendance above 675.

CHAPTER VIII

Financial Economy and School Business Administration

SINCE a forthcoming issue of the *Review of Educational Research* will be devoted to school buildings,¹ studies relating to the planning and construction of school buildings are omitted from the present issue; however, Chapter V of the present issue reviews studies on "Capital Outlay, Indebtedness, and Debt Service."

General Treatises on School Business Administration

Henzlik and others (240) contributed a small volume on practical economies in school administration. This work is an excellent summary of economies which various school systems have effected or which they might effect. It contains sixteen chapters on practical economies in such items as instruction, maintenance of the school plant, operation of the school plant, school organization, and auxiliary agencies. A similar book, recently published by Linn (250), is probably our most complete treatise on school economies. It suggests hundreds of practical school economies which might be effected. Cooper (229) also contributed a book on school economies. Although not as comprehensive as those just mentioned, it suggests hundreds of possible economies in education. Another general treatise on financial economy and school business administration is that by Morrison (258). In twenty chapters this book discusses such topics as the budget, terminal cost of education, depreciation, financial accounting, and teachers' salaries.

The Administrative Unit and Its Relation to Economies

During recent years many studies have indicated the large waste which results from the maintenance of small administrative units for schools. O'Brien (262) pointed out that by centralizing elementary schools to secure an average enrolment of thirty-five pupils per teacher, and by combining small high-school districts to secure an enrolment of thirty pupils per teacher, \$7,500,000 could be saved annually in the state of Kansas. Covert (230) presented data on economies which would result from enlarging the administrative unit for schools. He estimated that millions of dollars could be saved annually in the average state by adopting the county-unit plan, or a similar plan, of school organization. Cooper (229) analyzed cost in small school districts in various states, and compared those costs with costs in large school districts. He concluded that large administrative units were more economical. Turner (273) recommended the county unit for school administration instead of the small district or township unit which most states now have. He suggested four major economies which would

¹ See also "School Buildings, Grounds, Equipment, Apparatus, and Supplies." *Review of Educational Research* 2:343-441; December, 1932.

accrue from the county unit. Bowman (223) compared school administrative units in Indiana with the units for other governmental purposes in that state. He made several suggestions for improving the status of the Indiana township and town school districts. He affirmed that the present school districts are too small for efficient administration. Waits (274) presented data showing that waste exists in the expenditure of school funds in Ohio due to the large number of school districts within the county. He stated that these local districts are too small for proper efficiency.

School Organization and Instruction

Type of organization—Case (227) and Cooper (229) pointed out economies which would accrue from the platoon plan of school organization. Case outlined a platoon plan which would effect substantial financial economies and at the same time provide better educational facilities for the pupils. Cooper listed several communities in which the schools were platooned. Pedagogical efficiency and financial economy were stressed as outcomes of this type of school organization.

Watrous (276) explained how Los Angeles reorganized its school administrative program. He stated that through this reorganization approximately \$750,000 was saved. H. J. Miller (256) presented the views of the Minneapolis Taxpayers' Association relative to possible economies in junior high-school organization. In addition, he indicated economies which might be effected in teaching method, class size, and the curriculum.

Waltz (275) reported how a medium-sized school system effected an economy of \$83,000. These economies were effected primarily in instructional services, janitorial services, office supplies, and school property repairs. It is interesting to observe that the economies were effected without reducing teachers' salaries.

Henzlik and others (240) pointed out many opportunities for economies in various types of school organization. Some of the factors which they stated should be given careful consideration were homerooms, semi-annual promotions, departmentalization of the elementary school, better organization for supervision, larger pupil-teacher ratios, alternation of subjects, and combination of classes.

Curriculum and teaching method—In a study of a large high school in California, McMillin (253) found that the hour period for class recitations was more economical than the forty-minute period. She also found that a six-period school day was more effective.

By means of lesson plans and tests prepared for classes in the social sciences, Squire (270) explained how economies might be effected. He stated that the teaching load could be approximately doubled; that small classes could be consolidated; and that a large amount of the pupils' time could be saved through more effective stimulation of the pupils.

Scott (267) gathered data from graduate students on possible economies in expenditures for instruction. From these data he concluded that school systems have by no means exhausted the opportunities for effecting desir-

able instructional economies. He pointed out several major opportunities for economies in instruction.

Spain (269) affirmed that the proposal of certain people to eliminate the use of school gymnasiums, play rooms, and auditoriums would be impracticable and wasteful. He made an analysis of the factors affecting the use of these educational facilities in the city of Detroit and found that the elimination of the facilities would reduce capacity by 24,000 pupils.

During recent years instruction by correspondence, particularly in the smaller high schools, has developed rapidly. Mitchell (257) discussed the plan of correspondence study which has been used for several years in the Benton Harbor, Michigan, high school. He stated that this plan eliminates small classes with their usual high per-pupil cost.

Pupil-teacher ratio—Steeper (271) presented a list of economies effected in North High School, Des Moines, Iowa. He stated that, while the staff was reduced from eighty to fifty employees, the pupil-teacher ratio mounted from twenty-three to thirty-five pupils for each teacher. He affirmed that over a period of fourteen years the present plan has resulted in more personal service to the individual student and in a more efficient school in other ways. Boyer (224) presented pertinent data relative to size of classes in the junior high schools of Philadelphia. He made suggestions regarding ways of meeting the situation when it became necessary to increase the pupil-teacher ratio as an economy measure. Cooper (229) cited such well-known studies as those of Stevenson, Davis, Trueblood, and Kauffman to substantiate the conclusion that large classes do as well pedagogically as small classes. In a few cases it appeared that the large classes do an even better quality of work than the small classes, and almost always the large classes do nearly as well as the small classes.

Management of the School Plant

Operation of the plant—Feinstein and West (233), Hart (239), and Jedlicka (245) have recently reported studies on the heating of school buildings. Feinstein and West found that other factors pertaining to economies in heating were more important than the selection of coal merely on the basis of potential heat content or ultimate chemical analysis. A more significant factor was found to be the units of water condensed per dollar expended for fuel. Hart described how to reduce heat losses by proper attention to window construction and use. He estimated that a saving of 15 to 30 percent in fuel cost could be effected in most buildings by proper attention to window construction and use. Jedlicka reported that in schools which use automatic stokers the percent of the budget for janitor's supplies and fuel is greater than for schools which do not use stokers. His tentative conclusion was that stokers are not an economy but he suggested that further research is needed on the problem.

Linn (251) described twelve factors to be considered in preventing waste and reducing the consumption of electricity. He pointed out that paying the same rates for power and heating as is paid for lighting is a potential

source of waste. Linn (252) also contributed a study on ways of reducing water costs in schools. This study presented a table which showed how one city school district reduced its expenditures for water. The study listed ten rules for effecting economies in such expenditures.

Nesbitt (260) presented a study on economies in classroom ventilation. He concluded that in the light of presentday knowledge the conditions produced by systems of ventilation which provide large quantities of outside air at all times regardless of outside temperatures do not justify the cost of such systems either in installation or in operation.

Wylie (277), C. F. Miller (255), and Bosshart (222) have reported studies on school janitor service. Wylie stated that Los Angeles, by organizing a training school and a rating system for school janitors, in spite of a 10 percent reduction in wages and an increased janitorial load, was able to maintain the quality of service rendered at the level maintained before retrenchments were made. Miller pointed out many important economies that can be effected by a better standardization and supervision of janitorial service. Bosshart presented an outline of possible ways and means of reducing the operating costs of school buildings. His suggestions take into account such items as janitors' salaries, janitors' supplies and equipment, fuel, water, current, telephones, and office and classroom equipment.

Maintenance of the plant—Cook (228) stated that the most potent influence in securing efficient management of school maintenance programs is an annual survey to determine the relative urgency of the maintenance work to be done. He recommended an annual inspection of all buildings and equipment to ascertain which repairs should be made first. Frostic (237) suggested several factors to which attention should be given in the repair and upkeep of a school plant. He recommended that repairs be made when needed and that an annual inspection be given. More specifically he called attention to the need for frequent painting and similar repairs. Henzlik and others (240) gave many valuable suggestions for repairing school property. They stated that there is an economy in making repairs as soon as the need for them is estimated.

Insurance of the plant—Jedlicka (246) studied school property insurance through the use of a questionnaire to state departments of education and to county and city superintendents of schools. From 189 school systems which reported, he found that \$2,634,860 had been paid in premiums over a ten-year period, but the amount of insurance received during the same period was only \$674,031. He concluded, therefore, that almost two million dollars represented the price of insurance to these 189 school systems during the ten-year period. Holmes (243) found that an examination of the appraisals of 150 public buildings, most of which were schools, showed an average error of 30 percent in the insurance underwritings. He suggested seven sources of economies in school property insurance. Morton (259) suggested the following economies in school property insurance:

1. Determining more accurately the valuations of school property
2. Insuring property, particularly if fireproof, for less than full valuation

3. Securing lower insurance rates by eliminating fire risks
4. Adopting the co-insurance plan
5. Purchasing insurance for a longer term, for example, for three to five years.

Use of school buildings—Rose (266) reported that a staggered organization of classes in London, Ontario, made it possible to increase the capacity of the school plant by 100 percent. Allowing for the extra cost for the inauguration of the plan an estimated saving of \$6,900 was effected the first year. She reported that so far as could be ascertained there was no loss in pedagogical efficiency from the plan.

Administration of Supplies and Equipment

Henzlik and others (240) devoted a section to the administration of supplies. The study reported that economies could be effected through such means as centralization of purchasing authority, cooperative purchasing, and standardization of quality and amount. It suggested rules and procedures for the proper storage, distribution, and use of supplies. Cooper (229) offered valuable suggestions for effecting economies in the purchase and use of supplies. Among these suggestions were competitive bidding in the purchasing of supplies, standardization of the quality and the amount of supplies, and proper control in the use of supplies. Thames (232) stressed the importance of sound business practice in the administration of supplies and equipment. He listed fourteen questions to be answered in effecting economies in expenditures for equipment and supplies.

During recent years a trend has been observed, especially among rural school districts, toward purchasing public supplies cooperatively. California now requires cooperative purchasing of school supplies on the part of the rural districts of every county. Not only has there been a tendency for school districts to join together in purchasing supplies, but school systems and municipal and county governments have occasionally purchased certain of their supplies cooperatively. For example, during recent years the city of Cincinnati, the school system of Cincinnati, and Hamilton County, in which the city of Cincinnati is located, have purchased many of their supplies cooperatively. Descriptions of this attempt have been given by Forbes (235) and by Lex (248). Both of these articles indicated that economies were effected for all three units of government.

Contrary to most studies which have been made of large quantity purchasing, Young (278) found that in North County, New Hampshire, only a small saving was effected by purchasing in large quantities. He found that economies came primarily through the standardization of quality. Frostic (236) stated the fallacy of purchasing school supplies entirely on the basis of price. He indicated that the cheapest supply often becomes the most expensive. Adequate specifications protect the consumer and enable the dealer to bid intelligently. O'Dell (263) pointed out the value of standardizing supplies within the school system. He affirmed that such standardization did not appear to handicap pupil achievement as many have claimed. He stated that in many regards standardization resulted in economies.

Transportation of Pupils

Up to the present time practically all of the research on pupil transportation has been conducted on the rural schools. During recent years, however, a slight tendency is noted to conduct research on the transportation of city pupils; for example, Hill (242) reported a comprehensive study of the transportation of city pupils. This study of 177 city school systems revealed that a large number have chosen to provide transportation of pupils rather than maintain small schools and departments which pupils could attend without being transported; in other words, these school systems have regarded transportation of pupils as an economy measure.

Most of the research on pupil transportation during the last two years has been concerned with the vehicles used. Blanding (221) reported an experiment in Lancaster County, South Carolina, on the best type of ownership of school buses. In that county, buses are now owned by the county, and private individuals are invited to bid upon a three-year contract to supply complete service according to definite specifications. Several advantages of public ownership of school buses are pointed out. Engum (225) came to the same conclusion. From a study of 245 motor buses in Minnesota he concluded that publicly owned buses are safer, more economical, and more comfortable than privately owned buses. Finch (234) also came to this conclusion. Statistics secured from a school district in Texas showed that a savings of \$10,955.64 was effected in three years by changing from privately owned buses to publicly owned buses. This saving was made on a fleet of six buses. Gregory (238) found that in Oklahoma during the school year 1931-32 privately owned buses cost more than publicly owned buses. He stated that the average cost per pupil per day for privately owned buses was \$.1199; for publicly owned buses, \$.0717. In school districts which owned the bus body and leased the chassis, the average cost per pupil per day was \$.1228. Still another study has pointed out that publicly owned buses are cheaper than privately owned buses. Carson (226) showed that districts in eight Ohio counties which owned their buses saved approximately 20 percent as compared with districts which did not own their buses.

For many years it has been recognized that one of the chief handicaps to research on school transportation has been the meager and inefficient transportation records which schools and school systems have kept. Records which would permit comparisons of the transportation costs of various school systems or of the cost of one school system over a period of years have been almost as scarce as the dodo. Richardson (265) was fortunate in having excellent records which showed transportation costs over a period of years. He concluded that the best way to secure economy in pupil transportation was to keep separate records on the operating costs of each bus.

Miscellaneous Financial Economies

Dudley (231) discussed ways and means of adjusting school budgets during the present financial stress. He found that the following two gen-

eral methods of lowering school expenditures have been used during the present economic emergency: (a) certain phases of school work which have been recently introduced or which are no longer required have been eliminated; (b) the original program has been retained in toto and the necessary curtailments have been spread over the entire school program.

Pickell (264) discussed the principles of school budget making which are essential to economies. He stressed the importance of formulating the budget in great detail as well as of having desirable budgetary controls. He affirmed that when the budget has been approved it should be followed as faithfully as possible.

Linn (249) presented a checklist of more than 500 questions relative to economies in school administration. The questions were prepared so that an affirmative answer to them indicated a desirable and economical practice; if the answer to a question were given in the negative, investigation was to be made to ascertain whether an economy were possible.

Strayer (272) suggested how savings might be effected in making the budget, plant insurance, operation of the plant, utilization of plant and equipment, pupil-teacher ratios, consolidation of school districts, refinancing of the building program, care in selection of schoolboard members and well-trained administrators.

Sheffer (268) analyzed as follows the nature and purpose of educational activities which involved the collection and expenditure of money:

1. The management of school money
2. Purchase and utilization of materials
3. Purchase of protection for property
4. Management of indebtedness
5. Organization of schools and direction of personnel.

Hulton (244) prepared a checklist of seventy-one questions covering such functions as instruction, operation and maintenance of the school plant, school property insurance, and extra-classroom activities. The purpose of the list was to discover possible economies in the administration of city school systems. The suggestions were made especially for school systems in Pennsylvania.

The Department of Education of Massachusetts (254) made a survey of economies and retrenchments of the school districts of that state. Ten questions were asked and the answers summarized.

In New Jersey, the commissioner of education (261) called four regional conferences to consider economies in educational administration. Nine immediate possible economies were agreed upon. They related to the size of classes, reduction of number of failures, reduction of number of supervisors, economy in the purchase and use of supplies, less elaborate equipment, a moratorium on new plants, better utilization of classrooms, more efficient janitorial service, and the use of a lower grade of fuel.

Jordan (247) pointed out how saving the price of competence at the cost of incompetence results in an economic loss. In other words, he stated that to pay an incompetent employee only a few hundred dollars might beget more waste than to pay an artist employee several thousand.

CHAPTER IX

State and Federal Aid

THE preceding number of the *Review of Educational Research* dealing with this subject appeared in April, 1932 and considered briefly most of the significant earlier contributions in this field. Most of the important researches discussed in the previous survey were completed during the 1920-30 decade. In many respects the past full decade was the most significant in our educational history; and this was certainly the case with respect to the subject of state aid for schools.

The half-decade since 1930 has undoubtedly produced more of what one might call "activity" in this area; but our current survey seems to find it less important from the standpoint of research contributions. Financially, of course, the chief characteristic of the past five years has been the depression. During this time the general financial collapse, with its accompaniments in the form of shrunken incomes, bank failures, frozen assets, relief burdens, public retrenchments, impotent property taxation, and the like, has stimulated tremendous interest in the subject of state school support. The age-long heavy dependence of education upon local property taxation was never so questioned as during these years. The result has been a heightened activity in the area of state aid. States have seriously turned to the equalizing auspices of the parent state and to the equity and relief-giving power of the state's broader tax base.

This activity in the field of state aid has been characterized largely by movements looking towards the adoption of new state aid programs, by the actual passage of state aid laws, by changes in and extensions of state tax systems, and by an occasional radical or reactionary step—as one may choose to classify it—in the whole system of state support. Those interested in any of these developments should study the specific proposals and the legislation in the various states, such, for example, as Indiana, California, Wyoming, Maine, New Jersey, Kentucky, Ohio, Vermont, Tennessee, West Virginia, and North Carolina. Obviously, it does not lie within the province of this *Review* to discuss these developments in any detail, except where there were pertinent researches. Suffice it to say, that no student or layman interested in research in state aid can afford to neglect a close examination of the proposals, movements, and legal changes during recent years in the several states, and particularly in those mentioned above.

While, from the standpoint of research in state aid, the last half-decade, in comparison with the previous decade, seems definitely less significant, the activity of the period has shown unquestionably the effectiveness of the studies of the earlier years. The dominant research contribution of the

1920's was the equalization pattern. From a practical point of view nothing could have been more fortunate in school finance than that this pattern should have been designed and made available prior to 1929. Perish the thought that we should have been compelled to go through the present cycle with nothing better on which to build state aid than the helter-skelter schemes of the pre-20's! The equalization pattern has stuck. Even most of the argumentative discourses of the earlier days, such as "encouragement of effort" versus "equalization," have gradually dropped out of hearing.

It is quite clear, therefore, that the current problems of the research worker in this field have come to be (a) the refinement of the equalization pattern and technics relating thereto; (b) the evaluation of the already adopted systems of state aid; (c) the study of the taxation and funding aspects of state aid; and (d) the development of specific state programs. Possibly embraced in these areas, possibly outside them—perhaps for the administrator, the philosopher, or the social scientist, quite as much as the research man—are two closely allied problems. The first relates to the whole question of educational controls, and particularly those of the state. The second involves the problem of state aid versus complete state support, with its many implications and ramifications. These problems and much of their underlying significance are treated in the following chapter.

The National Survey of School Finance

Undoubtedly the most significant study of state support during the period here under consideration was made by Mort and his associates (297) in connection with the National Survey of School Finance, subsidized by the federal government. This comprehensive work has been reviewed so many times, commented upon so favorably, and given such wide distribution that it is unnecessary to attempt at this time any intensive review. No one could have been better qualified for the work than Mort, who, as a result of his earlier studies and work in over thirty states, was able, not only to visualize the problem in its entirety, but also to deal with it from the standpoint of a nation made up of forty-eight states.

The study is immensely practical. One finds here worked out in detail for each state the important measures of both minimum and defensible programs of state aid. The supplements by Joyal and Pearman (286) on statistics by states; by Sutton (309) on tuition and transportation; by Lawler (289) on the technical aspects of the pupil-teacher index; by Sutton (308) on salaries; and by Joyal (287) on legal provisions for apportionment of school funds, represent significant contributions. Lawler's consolidated calculator tables for elementary and high schools, based upon data from thirty-three states, are of inestimable value to anyone working with the problem in a given state and especially with limited research funds. If a state investigator were to have sufficient time and resources it

would still seem to be desirable to work out specifically on local data the weightings for an individual state; but lacking time and resources—generally common conditions—the investigator may safely employ Lawler's calculator tables. Mort's and Lawler's original charts, representative of the Vermont data, for example, were found by the writer of this review, to follow the national norms with sufficient closeness to warrant fully the use of the calculator tables in that state.

This study has already proved its worth. It has been used by research workers, students, administrators, and laymen. Its very compactness and inclusiveness, coupled with its technical character, make it necessary for the uninitiated to read closely and often reread several times, a condition that could have been avoided had it been possible to afford a much longer treatment than the five hundred pages allowed. This work furnishes in itself an excellent review of state aid down to date.

Even surpassing, in importance to the research student, the study referred to above, is a companion work on research problems in school finance (312). While this volume deals with the whole field of school finance, it is of particular importance for those working upon state support. Chapter X of this number of the *Review* refers to specific sections. There is enough in this volume to stimulate and guide research in educational finance for a quarter century. In fact, it may prove to provide just that.

The effect of the unfortunately abbreviated National Survey was immediate, constructive, and timely. It stimulated and guided much of the activity during the past few years. Of similar nationwide influence has been the work of the Joint Commission on the Emergency in Education of the National Education Association and the Department of Superintendence. While not a research work, this Commission's *Report of National Conference on the Financing of Education* (285) should not be omitted as a work based upon and undoubtedly influencing research. The chapters dealing with state aid and taxation are of particular value in the development of new state finance programs.

The Research Division of the National Education Association (298) has undertaken a most valuable contribution in the field of state aid in editing a series of descriptive statements regarding the state aid systems in effect in each of the states. These are not research; but they should be read by every research worker in the field. Each state description was prepared by a contributor thoroughly familiar with the system. Twenty-five state summaries have appeared to date; others will be published soon.

Special State Studies

During the past three years there have been a number of significant state studies largely for the purpose of developing improved state support programs. Perhaps the most important from the standpoint of pattern, was the New Jersey study by Mort (296). Volume I dealt with school costs and

economies and Volume II, with the reconstruction of the system of school support. Over \$13,000,000 of possible retrenchments and economies were found after a careful analysis. The retrenchment possibilities, not necessarily advisabilities, were more prevalent in the wealthy communities, indicating, as might be expected, a negative relationship between the possibility of and the economic need of economies. Volume I deserves research attention for its tentative standards of transportation costs which represented a departure from both Burns' (281) and Johns' (284) technics for computing transportation costs.

Volume II of the New Jersey study (296) proposed a minimum state support foundation program of \$57 and \$98 per elementary- and high-school pupil respectively, and a local contribution of 4.75 mills. The proposed program was significant for a relatively high minimum guarantee of \$13 and \$22 per elementary- and high-school pupil respectively. Mort proposed an ultimately defensible program of \$115 and \$195. No cost of living corrections were to be applied until the ultimate program had been reached. The chief significance of the study from a research point of view lies in the commendable attempt to relate educational services to expenditures. It should be carefully studied from this angle, on which we need much more work than has heretofore been attempted.

Mort's study (294) of Maine followed the New Jersey study and bore resemblances to it, especially in the commendable approach to relationship between expenditures and educational value. The ultimately defensible program proposed in Maine was \$45 and \$76. As contrasted with the New Jersey proposal it illustrates the difference in possibilities among states and argues by implication for federal assistance in funding. The Maine study is one of the best jobs yet done. The public relations program which accompanied this undertaking, but which was not reported, should be studied by all state agencies.

Snively, Hyde, and Biscoe (305) studied state aid in Virginia on somewhat more of a documentary than a technical basis and laid a good foundation for the scientific development of a state aid program. Adhering to the principle of equalization, it is worthy of note and commendable that the authors attempted, although not wholly successfully, to carry over this pattern into the non-educational fields of government. The authors seem to have run into a very natural pitfall, but one that needs minute exploration and seems to the reviewer to be regrettable, in that they appear to hold that whenever the state distributes a large amount of money to a local unit, it should exercise a correspondingly large control.

Sly and Shipman's study (304) in West Virginia reviewed the recent history of that state's effort to relieve the property tax by means of tax limitations. The authors indicated that the ultimate consequences of the tax limitation amendment were far from clear, that many difficulties needed to be corrected, and that the amendment could not be expected to produce permanently the relief which the taxpayer desired.

The reports of the Tennessee Educational Commission (311) and the Vermont Educational Commission (314) are interesting and stimulating to anyone who would compare and philosophize upon the two. The Tennessee undertaking followed the comprehensive route and represented a commendable cooperative effort; but it too often deviated from the equalization pattern which it apparently aimed to follow. Vermont's study was minute in comparison, especially in reference to state aid; yet no state survey ever adhered more closely to the equalization pattern. The Vermont study illustrated throughout the influence of the National Survey. It was conceived in retrenchment, but grew early into progress. Even now it has resulted in a progressive state aid law.

Several studies in the nature of general financial surveys have been made in recent years, such, for example, as the one by Larson (288) in Arizona. Larson indicated finance trends, dealt with the relationship of school to other governmental costs, and analyzed the reasons for increases in expenditures.

Administrative Aspects of the State Aid Problem

State Centralization in North Carolina, edited by Betters (280), deserves the consideration of students interested in the question of complete state support and its implications. This report was chiefly descriptive of the North Carolina experiment. At the time, this study could not have been scientifically critical, a procedure which is now possible and to be anticipated. On the face of things, if this chapter were dealing with movements rather than studies, the reviewer would have to abhor the particular program adopted by a great state.

Two studies of significance in relation to the very important question of administrative units were those of Little (292) and Strayer (307). Little approached the problem from the standpoint of potential economies and made a contribution in his formula for estimating cost reductions. Strayer studied particularly North Carolina, Maryland, and New York and found three different types of state influence. His study threw needed light on the question of local initiative and found that not the least among its conditioning agents was the larger unit of administration and taxation. This study represented an excellent review of the relationship of the state department to local units. Its central note was in the mooted area of controls, wherein more research must be undertaken. Strayer's study must be classified in the field of political science as well as in that of education. Another important study in the field of governmental units was the report of the Investigating Committee of Utah (313) which emphasized reorganization of local units and the strengthening of the central administrative board.

One of the most significant reports relating to fiscal administration was the symposium, edited by Leet and Paige (291). Through the pens of experienced and recognized authorities throughout the area of the social sciences, this report condemns constitutional and statutory tax limitations.

Beach (279) addressed himself to the safeguarding of school funds with particular reference to New York. He dealt with an important administrative aspect of state support in an able and constructive way, although his conclusion in favor of the depository system will bear further inquiry.

History, Theories, Evaluations, and Technics

The period here under review has not been prolific in studies in these areas of state aid. A few outstanding pieces of research, however, have appeared. Soper (306) traced the history of state aid in New York in a brief study which added materially to the research contributions of that state. There is a definite need of more work of this nature, done with the care and accuracy found in Soper's study. Wrightstone (315), basing his study on New York, threw needed light on the question of earmarking state aid funds. He concluded that equalization has been as influential upon educational expenditure as reward for effort, that the same results appear to have been secured with non-earmarked as with earmarked aid, and that local initiative is essential under any plan. McGuire (293), dealing with the question of equalization in the broad, contributed a well-developed discussion of the equalitarian philosophy and practice. Powell (302) contributed to the question of what educational return is bought by varying expenditures. His study is related closely to one of the features of Mort's Maine and New Jersey studies. Based on one-teacher schools in a single county, Powell's study was well under control, although its method limited its breadth, chiefly because of the reliance upon tests. Powell's work is judged by the reviewer to be of much importance. Achievement of pupils was found to correlate highly with expenditure.

Schmidt (303) previously dealt with a somewhat similar problem, but from the standpoint of the content of the educational program in relation to the financial plan. More particularly, however, Schmidt was concerned with what program a state should mandate. His study falls somewhere between that of Strayer and those of Powell and Mort. It has its greatest value in relation to local initiative. The student of this field should know Schmidt's work and his proposals for further research.

Lawler (290) produced the most technically valuable study of the period and, by the same token, perhaps the least known. He developed a technic for computing the amount of new aid required for state equalization programs. Mort will probably use this study more than anyone else; but as time goes on and we become more familiar with Lawler's work, it should prove of value to the administrator of state aid systems. The work may be taken to be accurate and refined. It is deserving of a more technical review than can be given here.

Pearman (301) studied the important question of earmarked versus non-earmarked revenue for state support with a result favorable to general revenue appropriation. Pearman's work deserves the attention of all states considering new systems of support and taxation. Systems of non-ear-

marked revenue were generally found to accompany executive budget systems.

Essex (283) studied the financing of school buildings with reference to bonding versus pay-as-you-go. Not strictly in the field of state aid, Essex' work has a distinct bearing upon any state's support of capital outlay. His emphasis upon the question of the worth of money in the individual community may well be followed up with further research.

The Governor's Committee on the Costs of Public Education in the State of New York (300) studied in 1933 the influence and need of a strong state aid system in that state. Studies of a factual nature were made under the direction of Strayer, as director of studies. This Committee recommended the state's adherence to the state aid program as developed prior to the depression.

Foreign Studies

It is gratifying to find Fletcher Harper Swift (310), the dean of students of educational finance, turning to the study of European policies in the financing of education. His studies of France, Czechoslovakia, and Austria are typically well done in the Swiftian manner. Not essentially studies in state aid, as we think of them, they are, nevertheless, just that in reality. At present in America, these studies are important for their exposition of the policy of rather complete national support and for the light which they throw upon the centralization of support and control as related to the future policies of our states. We need to know more of the things that Swift's studies describe—which is not to say that we should adopt the European policy. Perhaps more than in any other particular, the studies are revealing and instructive for American practice in relation to the determination of teachers' salaries.

Federal Aid

The period of the past two years has been one of great activity in relation to federal aid, but little of a research character has appeared. Much work, as yet unpublished in any comprehensive form, has been done, however, in this area by Mort, Dawson, Chism, and others. Mort (295) reported the development of a formula using density of population as a basic corrective factor. H. A. Dawson, in unpublished papers, has contributed greatly to a clarification of the need and desirable direction of federal aid. Chism (282) has taken the wind out of the sails of those who ask that the states "first put their own houses in order" by actually applying to states the model tax system of the National Tax Association (299) and then revealing the vast divergence of funding ability which still remains.

The federal relief agencies have contributed educational support through relief processes. The experience with relief and public works funds should form the source for valuable research. There is a distinct need for a comprehensive survey of the whole question of federal aid to education.

CHAPTER X

A Forecast of Future Research in Financing of Education

SIGNIFICANT progress has been made during the past few years on the problems bearing on the basic structure of school finance, as well as on the problems involved in the actual administration of schools. The depression has been fruitful in the development of interest in both of these areas. If we look towards the reconstruction of American education with any degree of optimism, we cannot but be considerably disturbed by lacks in knowledge in three highly important areas. The first division lays out significant areas for research which, if carried through, would seem to have potentialities for vast improvements in the efficient organization of our schools, and perhaps for vast economies. The second division indicates two of the problems having to do with the basic structure of school finance upon the answers to which may depend the health of American education for generations to come. The third division suggests researches which would have a bearing upon public attitude toward the support of education and upon policies of educational leadership in asking for support.

Efficient and Economical Operation of Schools

There are five important problems in the area of school financial management, considered broadly, which cry out for solution.

1. *Salary schedules*—Salary schedules have lapsed during the depression. If we come out of the depression, are we going to seek to restore only that which we had before or can we look forward to having some light on the fundamental issues involved in salary schedule development? What evidence do we have to enable us to say that the salary schedule should start out at a subsistence wage, a sub-subsistence wage, or a higher-than-subsistence wage? Considering the whole pattern of the salary which an individual might expect to obtain in education over a period of years, do we tend to pay the right amount as a beginning wage, are we paying more than necessary, or are we paying less than necessary, to draw in the superior individuals who should be drawn into teaching? How fast should the salary rise? What should be its ultimate peak? What should be the relationships between the beginning and later salaries to attract the right type of individuals? These are questions for which we have the sketchiest of answers. Certainly one of the needs which we face at the present time is evidence which will guide in salary schedule formulation. The opportunity before us in the reconstruction period to build on a solid foundation is large. What is the foundation? Suggestions for attacking this problem were

laid out by the National Survey of School Finance in the volume, *Research Problems in School Finance* (127: 78-79).

2. *Class size*—What about class size? Without attempting to criticize the importance of the work which has been done in this field, we are forced to admit that our ignorance in this field is profound. Most of the studies of class size have used as a criterion the average achievement of school classes. It should be apparent that one can affect tremendously the state of a significant number of pupils in a class without changing the average achievement significantly. If the students of this problem had consciously sought the criterion least sensitive to the effects of instruction on individual placement, they could not have done better than to choose the average of the distribution.

Perhaps the most significant studies in class size have been those that sought to take large groups of children for instruction in particular phases of school work. It has been pointed out by Stoddard and others that if a few very large classes can be operated in a school, the teacher-time saved would permit the operation of classes very small indeed in those aspects of the work of the school which demand close individual attention. Yet we have largely assumed that every subject and every phase of every subject should be taught to a class numbering somewhere between twenty and forty.

There are some indications from experience of teachers that there are certain critical points at which a class ceases to be a group of individuals and becomes a mass phenomenon. If such critical points exist, where are they? How do they vary from teacher to teacher? How can we select the teacher for whom the critical point is higher? What influence on the whole question of class size do the new media of instruction, motion pictures and radio, have?

Certainly the question of class size cannot be attacked and settled by a single individual. It is one of the problems which demands attack in a wide area by a great variety of individuals. Some suggestions for the attack on this highly important problem were made by the National Survey of School Finance (127: 74-77).

3. *Unit costs for categories of service*—What should a given type of service or material cost? This is a question upon which all of our masses of statistics throw but little light. Unit costs as we know them have been largely repudiated by practitioners in the field. The average cost of the program for medical service, for example, means nothing. Such an expenditure would be wasteful for a community that limits its medical attention to periodic, cursory inspections. Such an expenditure would be far from adequate for the community which attacks its medical problems on the level representative of the practice in many communities. Such unit costs, then, lull the backward communities into lethargic wastefulness; for the forward-looking communities they operate as trouble-makers. All of the promise which unit costs seem to have are in danger of going by the board.

Yet, the basic idea is sound. What is needed is the development of unit costs for categories of service. Such unit costs will not be repudiated by the progressive communities. They will serve as a basis for checking up the expenditures in the progressive communities as well as in the average communities. They will not whitewash wasteful expenditures for limited service in the backward communities. Suggestions for an attack on this problem also are given in the volume, *Research Problems in School Finance* (127: 46-53).

4. *Efficient local tax districts*—One of the most significant problems in the field of school finance is the problem of developing efficient local tax districts. While the many studies of the last decade have thrown some light on the problem, the serious difficulty in all cases save one has been in the attempt of an individual to solve the entire problem. The thinking of the staff of the National Survey of School Finance (127: 141-46) led to a line of attack which would, the writer believes, give us the answers to the vexing questions arising in this area.

Investigations laid out as a result of the deliberations of the staff and of the members of this conference required a study of each element that goes to make up an educational program in its relationship to efficiency and size of unit. Of the many independent investigations which have been made in the last decade, only one, that of Alonzo Briscoe on *The Size of the Local Unit for Administration and Supervision of Public Schools*, as yet unpublished, makes a drive along this direction. This dissertation, which was encouraged by the activities of the National Survey of School Finance, shows that the line of investigation laid out by the staff of that Survey is a promising one.

5. *Budgeting and auditing*—During the last decade considerable headway has been made in various states in the improvement of budgetary practices. The problem here would seem to be largely an extension and application of what is already known. There still remain states in which the idea of proper budgetary procedure is as foreign to most school authorities as cosmic rays. The trouble, however, would seem to be in the realm of application rather than in research.

In a closely related field the same cannot be said. The auditing of school accounts is still in its infancy. It ought to be a comparatively simple matter for someone skilled in this field to develop procedures which would make of the auditing something more than a mere accounting of bookkeeping. What is needed is an audit which will take into consideration proper expenditures for the type of service expected. At the same time, the audit should avoid control. Perhaps the key to the solution of this problem lies in the obtaining of proper unit cost data and in the training of individuals for school auditing who would have a sufficient understanding of the internal operation of schools to make the audit a significant and dependable safeguard. There has been enough experience with the problem of auditing by means of private agencies, state departments of education, and

general state auditing departments to serve as an excellent background for significant research in this field.

Such research ought to go a long way in helping to establish practices which would still the honest doubts of those who question the ability of communities to handle their own funds. This would have a salutary effect in forestalling the drastic and dangerous movement towards centralized control of expenditures.

Local Taxing Power versus Centralization

1. *Local initiative*—There is probably no school problem of greater significance facing this generation than that of appraising the value of local taxing power. The traditional American practice of local taxation is now being overwhelmed by a rising tide of tax limitations, expenditure limitations, and other means of eliminating fiscal independence of schools. Here again, educational leaders are unable to speak with the authority which thoroughgoing research would make possible. Should educators oppose this movement and, by arousing the tremendous dormant public sentiment favorable to the safeguarding of education, turn back the tide? Or, should they welcome the movement as a means for eliminating practices which have no basis other than tradition?

A fundamental answer to one phase of this question can come only from an understanding of the functions of local initiative in American education. An appraisal of the claims for local initiative with respect to taxation seems to show that the case must rest upon the value of local initiative as a device for maintaining educational efficiency. To what degree does the adjustment of the educational system to new needs depend upon local initiative? To what degree have other devices been effective? Have those states which have hampered local initiative most through the hobbling of local taxing power found other means by which to keep at a minimum the lag of the educational programs? Have those countries which have built up their financial structures for education on complete central support been able to introduce devices which have kept this lag at a minimum? Considerable attention was given to this problem in the National Survey of School Finance (127: 147-52). With the aid of the Columbia University Council on Research in the Social Sciences, the writer of this chapter is now being enabled to pursue the problem somewhat farther. However, the research involved in the authoritative answering of these questions is one of tremendous scope.

2. *Dangerous by-products of necessary centralization*—The same issues must be attacked from another angle. We must appraise the dangers which arise from centralized control. We find ourselves swept along by tax reform movements towards more complete central support of schools. We have welcomed this because of the obvious necessity to obtain central support if an adequate minimum of educational opportunity is to be provided. We need to give constant attention to the dangers involved in this process.

Does the American political system have elements in it which will be brought to play when central governments have taken over larger responsibilities in support? Some of these dangers have been sensed. It is obvious from experience that when the decision as to the amount of aid to be granted a community is left to a central office with a central authority, all sorts of unforeseen controls creep in. Steps have been taken in the last decade to offset this difficulty by the setting up of objective measures making possible the passage of legislation establishing exact formulas for determining the amount of aid to which a district is entitled.

But there are other questions. If large central support is accompanied by tax limitations on local communities, there is a danger that we shall be in a situation where a reactionary legislature can blast the educational system of an entire state. If this is so, it can be avoided by the absolute insistence on the part of educators that tax limitations be avoided, that localities be given the opportunity to raise, from their own taxes, funds which a reactionary legislature might refuse to provide.

Some persons, appalled by the possibilities of difficulties of this sort, counsel against central support of education. Anyone who knows the facts about the ability of the communities to support education in any state, or the abilities of the states to support education, knows that this is counsel of defeat. What is needed, rather, is research into all the possibilities of evil from the necessary development of central support with the faith that forewarning can lead to forearming.

Productiveness of Education

1. *Returns for money spent*—More should be known concerning the educational returns on different expenditure levels. In connection with the Maine and New Jersey surveys (89, 92), some very useful material was obtained by inspecting the programs in selected low-, middle-, and high-expenditure communities. For this purpose a checklist of some two thousand items was utilized. The distinctive differences that were obtained by this process indicate a real promise in this area. What is needed is an improvement of the technics and an extension of their application.

2. *The economic value of education*—The determination of the economic values of education provides a fruitful field for investigation. Practically all economists have claimed high economic values for education. In spite of this, little has been done actually to appraise these values. The studies of Harold Clark have gone a considerable distance in appraising the values to the individual. Practically nothing, however, has been done in appraising the contributions of education to the general wealth. It would seem to be fairly obvious that if increased economic value comes to an individual in terms of salaries, or other payment for services, the paying agencies do not pass all of the advantage along to the employee. Some of this must be returned to capital and some must be distributed in the form of profits. A recent address by Chester I. Barnard, President of the New Jersey Bell Telephone Company, is particu-

larly suggestive in that it points out the dependence of highly organized industry, such as the Telephone Company, upon an educated public.¹ These leads should be followed up. Similar investigation should be made in other types of industries. William S. Nutter of the Goodall Worsted Company of Sanford, Maine, has recently called to the attention of the writer the significance to the textile industry of certain aspects of public education. If facts were collected in this area it might throw an entirely different light upon the ability of the American people to support public education. There is altogether too great a tendency to look upon education as a consumptive good, whereas the indications are fairly clear that it plays an exceedingly important part in our economic system as a productive enterprise.

3. *Taxes based on benefit received*—The problem just outlined suggests certain bearings on taxation. Perhaps the notion that education must be financed by taxes based on ability to pay is tied up with the broad assumption that education is purely a consumptive enterprise. It can doubtless be definitely shown that the consumption of certain types of goods is in no small way dependent on the education of the consumer. A way might be opened for certain types of benefit taxes which might go a long way in solving some of our taxation problems. At the present time, the economic productiveness of education is reflected in increased income to the individual, increased capital, and increased profits. It does not seem to be a particularly far-fetched suggestion to propose that part of this increased productiveness might flow directly back to the support of the basic enterprise—public education.

¹ Barnard, Chester I. "Collectivism and Individualism in Industrial Management." Fourth Annual Economic Conference for Engineers. Stevens Engineering Camp, Johnsonburg, New Jersey, August 11, 1934.

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